DEPARTMENT of ENVIRONMENTAL SERVICES Water Division - Watershed Management Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: THORNDIKE POND		Lake Area (ha):	107.24
Town: JAFFREY		Maximum depth (m):	7.0
County: Cheshire		Mean depth (m):	3.4
River Basin: Merrimack		Volume (m³):	3513500
Latitude: 42°51'37"		Relative depth:	0.6
Longitude: 72°03'17"		Shore configuration:	1.65
Elevation (ft):		Areal water load (m/yr)	: 5.67
Shore length (m):		Flushing rate (yr ⁻¹):	1.70
Watershed area (ha):	1036.0	P retention coeff.:	0.64
<pre>% watershed ponded:</pre>	0.7	Lake type: natura	al w/dam

BIOLOGICAL:	16 February 1999	20 July 1998
DOM. PHYTOPLANKTON (% TOTAL) #1	NO WINTER PLANKTON	CHRYSOSPHAERELLA 35%
#2	ANALYZED	DINOBRYON 30%
#3		SYNURA 12%
PHYTOPLANKTON ABUNDANCE (units/mL)		
CHLOROPHYLL-A (µg/L)		4.58
DOM. ZOOPLANKTON (% TOTAL) #1		NAUPLIUS LARVA 39%
#2		KERATELLA 23%
#3		CALANOID COPEPOD 18%
ROTIFERS/LITER		56
MICROCRUSTACEA/LITER		133
ZOOPLANKTON ABUNDANCE (#/L)		189
VASCULAR PLANT ABUNDANCE		Scattered
SECCHI DISK TRANSPARENCY (m)		3.5
BOTTOM DISSOLVED OXYGEN (mg/L)	10.5	2.1
BACTERIA (E. coli, #/100 ml) #1		1
#2		< 1
#3		
		*

SUMMER THERMAL STRATIFICATION:

weakly stratified

Depth of thermocline (m): None Hypolimnion volume (m^3) : None Anoxic volume (m^3) : None

CHEMICAL:			THORNDIKE JAFFREY	POND		
	16 Febru	ary 1999	20 J	20 July 1998		
DEPTH (m)	1.0	3.5	2.0		4.5	
pH (units)	5.6	5.6	6.4		6.0	
A.N.C. (Alkalinity)	1.7	1.6	1.8		2.6	
NITRATE NITROGEN	0.07	0.07	< 0.05		< 0.05	
TOTAL KJELDAHL NITROGEN	0.10	0.10	0.20		0.20	
TOTAL PHOSPHORUS	0.006	0.007	0.009	V-10-1	0.007	
CONDUCTIVITY (µmhos/cm)	31.6	33.7	27.7		27.6	
APPARENT COLOR (cpu)	7	8	17		21	
MAGNESIUM			0.44		7/ 0	
CALCIUM			1.4			
SODIUM			2.8			
POTASSIUM			< 0.40		7.744	
CHLORIDE	. 4	4	4	• • •	3	
SULFATE	4	4	3		3	
TN : TP	28	24	22		29	
CALCITE SATURATION INDEX			4.5		V	

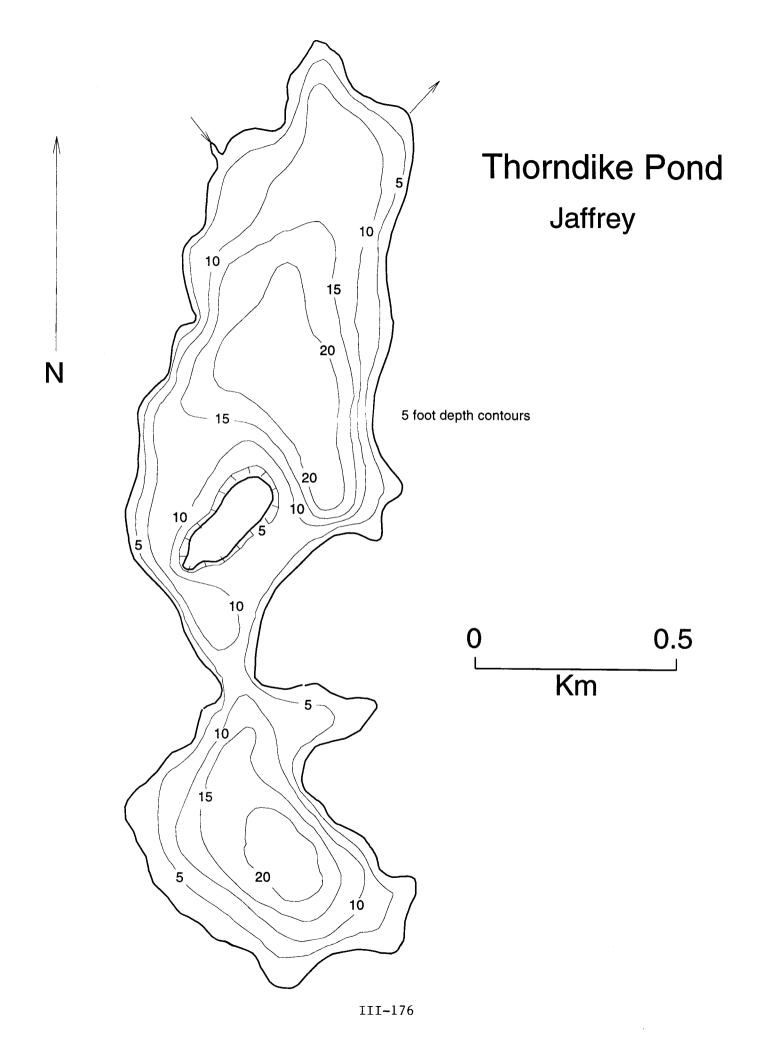
All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1998

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	2	1	1	4	Oligo.

COMMENTS:

- 1. This pond was previously surveyed and classified in 1982. There was no change in trophic class and little change in trophic quality between the two dates.
- 2. Thorndike Pond has participated in VLAP since 1990. Chlorophyll has shown a slight increasing trend but values remain low. Other trophic parameters (Secchi depth and phosphorus) have remained stable during this time.
- 3. This is a moderately acidic, clear-water oligotrophic pond.
- 4. Boat launch was present at the northern end of the pond near the inlet and a juvenile camp. The launch is steep, paved to the waterline and has parking for 4 to 5 vehicles and trailers.



FIELD DATA SHEET

LAKE: THORNDIKE POND

DATE: 07/20/1998

TOWN: JAFFREY WEATHER: OVERCAST & BREEZY

DATE: 07/20/1998	WEATI	ier: Overcast & Bre	
DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
0.1	24.9	8.2	97 %
1.0	24.9	8.1	96 %
2.0	24.8	8.1	96 %
3.0	24.6	8.0	93 %
4.0	21.1	7.4	82 %
5.0	18.2	2.1	22 %
		-	

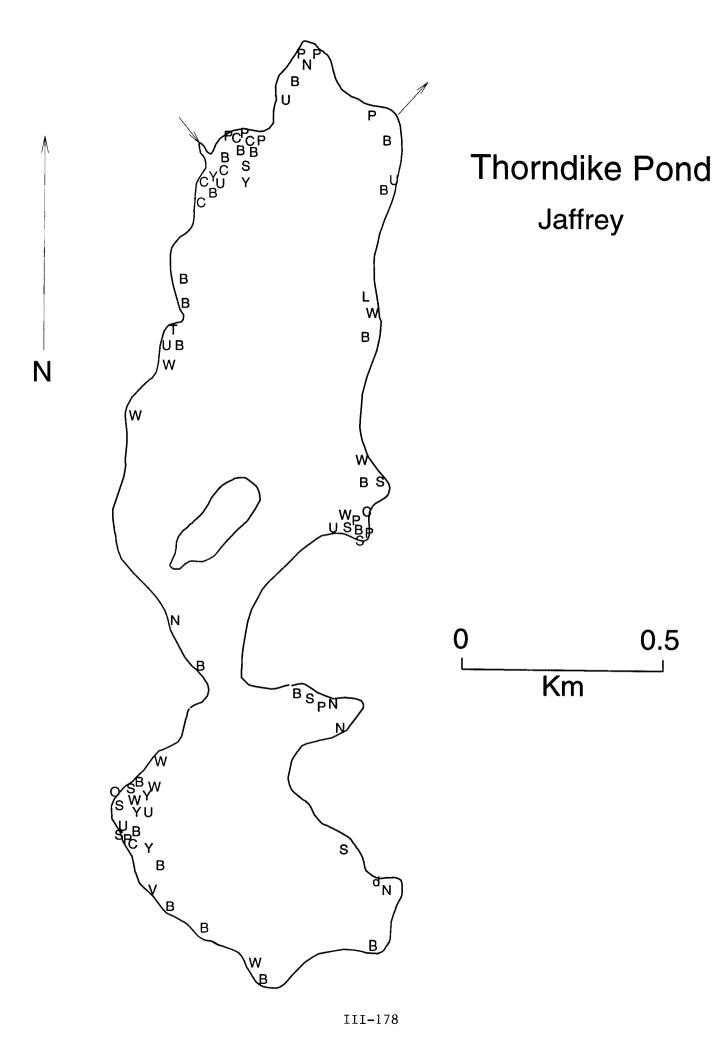
		- 1990	

SECCHI DISK (m): 3.5 COMMENTS:

BOTTOM DEPTH (m): 5.5

TIME: 1325

*Dissolved oxygen values are in mg/L



AQUATIC PLANT SURVEY

LAK	E: THORNDIKE POND	TOWN: JAFFREY D	ATE: 07/20/1998
Key	PLANT	NAME	ABUNDANCE
	GENERIC	COMMON	ABONDANCE
Р	Pontederia cordata	Pickerelweed	Sparse
В	Brasenia schreberi	Water shield	Scattered
Y	Nuphar	Yellow water lily	Sparse
W	Potamogeton	Pondweed	Sparse
С	Cyperus	Sedge	Sparse
U	Utricularia	Bladderwort	Sparse
T	Typha	Cattail	Sparse
S	Sparganium	Bur reed	Sparse
0	Cephalanthus occidentalis	Buttonbush	Sparse
V	Vallisneria americana	Tape grass	Sparse
N	Nymphaea	White water lily	Sparse
d	Dulichium arundinaceum	Three-way sedge	Sparse
L	Lobelia dortmanna	Water lobelia	Sparse
		·	70 Miles (10 miles) 10 miles

OVERALL ABUNDANCE: Scattered

GENERAL OBSERVATIONS:

1. Several clumps of algae were observed near the dam at the northern end.